

REMARKS

By this Amendment, claims 22-27, 31, 33, 35 and 36 are amended, and claims 28-30 and 37-40 are canceled. Thus, claims 22-27, and 31-36 are pending in the above-referenced application.

Claims 22-27 and 31-36 are presented for purposes of an interference with U.S. Patent No. 6,525,168 B2 (the '168 patent) and U.S. Application No. 10/368,135 (the '135 application). A copy of the '168 patent and the '135 application are attached as Appendices A and B, respectively. As Applicants will demonstrate, claims 22-27 and 31-36 define allowable subject matter that interferes with the inventions claimed in the '168 patent and the '135 application. Thus, Applicants request that an interference be declared between the present application and the '168 patent and the '135 application. Because, an interference with an issued patent is requested, Applicants respectfully request that examination of the present application be expedited.

Applicants' Specification Fully Supports Applicant's Claims 22-27 and 31-36

Applicants' claims 22-27 and 31-36, like claims 1-6, 8, and 10-13 of the '168 patent and claims 9 and 10 of the '135 application, are drawn to a single patentable invention. Specifically, the patentable invention encompasses polythioether polymers and curable compositions comprising polythioether polymers where the polythioether polymers have the structure of $\text{H-S-R}^1\text{[-S-(CH}_2\text{)}_p\text{-O-(R}^2\text{-O)}_m\text{-(CH}_2\text{)}_q\text{-S-R}^1\text{]}_n\text{-S-H}$, and mixtures of polythioether polymers comprising $\text{B-}\{\text{-S-R}^1\text{[-S-(CH}_2\text{)}_p\text{-O-(R}^2\text{-O)}_m\text{-(CH}_2\text{)}_q\text{-S-R}^1\text{]}_n\text{-S-H}\}_z$, where the constituents are as defined in the claims.

Certain embodiments of the claimed invention and the '168 patent and the '135 application are directed to very similar inventions. For example, both Applicants' claimed

invention and the '168 patent provide for polythioether polymers and mixtures of polythioether polymers having the identical and similar chemical structures. Both Applicants' claimed invention and the '135 application provide for curable compositions comprising polythioether polymers, a filler, and a curing agent.

As shown below, the present non-provisional application, as well as Applicants' domestic priority document, support claims 22-27 and 31-36. Thus, Applicants' claims 22-27 and 31-36 are entitled to an effective filing date corresponding to Applicants' domestic priority application filing date, i.e., the present application is a continuation-in-part of U.S. Application No.

08/802,130 filed September 19, 1997, now Patent No. 5,912,319.

| <i>Claim 22 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| <p>A polythioether comprising:</p> $\text{H-S-R}^1\text{--}[\text{--S--}(\text{CH}_2)_p\text{--O--}(\text{--R}^2\text{--O--})_m\text{--}(\text{CH}_2)_q\text{--S--R}^1\text{--}]_n\text{--S--H}$ <p>wherein</p> | <p>"A preferred linear structured mercapto-terminated polymer useful in the sealant and potting formulations of the present invention has the structure of formula (I):</p> $\text{HS--R}^1\text{--}[\text{--S--}(\text{CH}_2)_p\text{--O--}(\text{--R}^2\text{--O--})_m\text{--}(\text{CH}_2)_q\text{--S--R}^1\text{--}]_n\text{--SH}"$ <p><i>Page 13, lines 9-12.</i></p> |
| <p>R¹ is selected from the group consisting of a C₂₋₆ n-alkylene, and a $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$ group;</p> | <p>"R¹ denotes a C₂₋₁₀ n-alkylene, C₂₋₆ branched alkylene, C₆₋₈ cycloalkylene or C₆₋₁₀ alkylcycloalkylene group, heterocyclic, $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$; or $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$ in which at least one $\text{--CH}_2\text{--}$ unit is substituted with a methyl group;"</p> <p><i>Page 13, lines 14-17.</i></p> <p>"Useful polythiols include dithiols having the formula (IV): $\text{HS--R}^1\text{--SH}$ (IV) where R¹ can be a C₂₋₆ n-alkylene group; $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$"</p> <p><i>Page 9, lines 9-14.</i></p> |
| <p>R² is selected from the group consisting of a C₂₋₆ n-alkylene, and C₆₋₈ cycloalkylene;</p> | <p>"R² denotes a C₂₋₁₀ n-alkylene, C₂₋₆ branched alkylene, C₆₋₈ cycloalkylene or C₆₋₁₄ alkylcycloalkylene group, heterocyclic, or --</p> |

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| | <p>$[(-CH_2)_p-X]_q-(-CH_2)_r$ group;"</p> <p><i>Page 13, lines 18-19.</i></p> |
| X is selected from the group consisting of O and S; | <p>"X denotes one selected from the group consisting of O, S and $-NR^6-$;"</p> <p><i>Page 13, lines 20-21.</i></p> |
| m is an integer between 1 and 10; | <p>"m is an independently selected rational number from 1 to 50;"</p> <p><i>Page 13, line 23.</i></p> <p>"Preferred divinyl ethers include those compounds having at least one oxyalkylene group, more preferably from 1 to 4 oxyalkylene groups such as those compounds in which m is an integer from 1 to 4. More preferably, m is an integer from 2 to 4."</p> <p><i>Page 7, lines 25-28.</i></p> |
| p is an integer between 2 and 6; | <p>"p is an independently selected integer ranging from 2 to 6;"</p> <p><i>Page 13, line 25.</i></p> |
| q is an integer between 1 and 5; | <p>"q is an independently selected integer ranging from 2 to 6;"</p> <p><i>Page 13, line 25.</i></p> |
| r is an integer between 2 and 10; and | <p>"r is an independently selected integer from 2 to 10"</p> <p><i>Page 13, line 27.</i></p> |
| n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons. | <p>"n is an independently selected integer from 1 to 60."</p> <p><i>Page 13, line 24.</i></p> <p>"Preferably, the ungelled mercapto-terminated polymers have a number average molecular weight ranging from about 500 to about 20,000 grams per mole, more preferably from about 1,000 to about 10,000, and most preferably from about 2,000 to about 5,000, the molecular weight being determined by gel-permeation chromatography using a polystyrene standard."</p> |

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| | <p><i>Page 7, lines 1-5.</i></p> <p>A Dalton is defined as a unit of molecular weight having one-twelfth the mass of a carbon atom in its ground state. <i>IUPAC Compendium of Chemical Terminology</i>. A carbon atom has an atomic mass of 12.011 grams per mole. Thus, for practical purposes, a Dalton is roughly equivalent to one gram per mole. One skilled in the art would know that a molecular weight of a polymer is in units of Daltons.</p> |
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| <i>Claim 23 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether of claim 22 wherein R ¹ is C ₂ -C ₆ n-alkylene. | <p>"Useful polythiols include dithiols having the formula (IV): HS-R¹-SH (IV) where R¹ can be a C₂₋₆ n-alkylene group; . . ."</p> <p><i>Page 9, lines 9-11.</i></p> <p>"In a more preferred embodiment of the foregoing polymer, R¹ is C₂-C₆ alkyl and R² is C₂-C₆ alkyl."</p> <p><i>Page 13, lines 28-29.</i></p> |

| <i>Claim 24 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether of claim 22 where R ¹ is -[(-CH ₂ -) _p -O-] _q -(-CH ₂ -) _r -, where r, p, and q are 2. | <p>"In a preferred embodiment, X is O or S, and thus R¹ is -[(-CH₂-)_p-O-]_q-(-CH₂-)_r- or -[(-CH₂-)_p-S-]_q-(-CH₂-)_r-. Preferably, p and r are equal, and most preferably both have the value of 2."</p> <p><i>Page 9, lines 23-25.</i></p> <p>". . . p is an independently selected integer ranging from 2 to 6, q is an independently selected integer ranging from 1 to 5 and r is an independently selected integer ranging from 2 to 10."</p> <p><i>Page 9, lines 16-18.</i></p> |

| <i>Claim 25 of the Present Application</i> | <i>Representative Support in Applicants'</i> |
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| | <i>Present Specification</i> |
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| The polythioether of claim 22 wherein R ² is C ₂ alkyleneoxy. | <p>"R² denotes a C₂₋₁₀ n-alkylene, C₂₋₆ branched alkylene, C₆₋₈ cycloalkylene or C₆₋₁₄ alkylcycloalkylene group, heterocyclic, or – [(–CH₂)_p–X]_q–(–CH₂)_r– group;"</p> <p><i>Page 13, lines 18-19.</i></p> <p>"In a more preferred embodiment of the foregoing polymer, R¹ is C₂-C₆ alkyl and R² is C₂-C₆ alkyl."</p> <p><i>Page 13, lines 28-29.</i></p> |

| <i>Claim 26 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether of claim 22 wherein the molecular weight of said polythioether ranges from about 2000 to about 5000 Daltons. | <p>"Preferably, the ungelled mercapto-terminated polymers have a number average molecular weight ranging from about 500 to about 20,000 grams per mole, more preferably from about 1,000 to about 10,000, and most preferably from about 2,000 to about 5,000, the molecular weight being determined by gel-permeation chromatography using a polystyrene standard."</p> <p><i>Page 7, lines 1-5.</i></p> |

| <i>Claim 27 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether of claim 22 having an atomic percentage ratio of C:S:O of 35-49 : 20-60 : 0-20. | <p>"A preferred linear structured mercapto-terminated polymer useful in the sealant and potting formulations of the present invention has the structure of formula (I); HS–R¹–[(CH₂)_p–O–(–R²–O–)_m–(CH₂)_q–S–R¹–]_n–SH (I) . . ."</p> <p><i>Page 13, lines 9-12.</i></p> |

| <i>Claim 31 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| A mixture of polythioether polymers comprising: a polythioether polymer having the formula | "Polyfunctional mercapto-terminated polymers according to the present invention thus preferably have the formula:" |

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| | <i>Page 16, lines 1-2.</i> |
| $B-\{-S-R^1-[-S-(CH_2)_p-O-(R^2-O)_m-(CH_2)_q-S-R^1]_n-S-H\}_z$ <p>wherein</p> | <p>Polyfunctional polythioethers according to the present invention can preferably have the formula (III):</p> $B-(-A-[R^3]_y-R^4-)_z$ <p>wherein A denotes a structure having the formula I,"</p> <p><i>Page 16, lines 16-20.</i></p> <p>"A preferred linear structured mercapto-terminated polymer useful in the sealant and potting formulations of the present invention has the structure of formula (I):</p> $HS-R^1-[-S-(CH_2)_p-O-(R^2-O)_m-(CH_2)_q-S-R^1]_n-SH$ <p><i>Page 13, lines 9-12.</i></p> |
| <p>R^1 is selected from the group consisting of C_{2-6} n-alkylene, and a $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;</p> | <p>"R^1 denotes a C_{2-10} n-alkylene, C_{2-6} branched alkylene, C_{6-8} cycloalkylene or C_{6-10} alkylcycloalkylene group, heterocyclic, $-[(-CH_2)_p-X]_q-(-CH_2)_r-$; or $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ in which at least one $-CH_2-$ unit is substituted with a methyl group;"</p> <p><i>Page 13, lines 14-17.</i></p> <p>"Useful polythiols include dithiols having the formula (IV): $HS-R^1-SH$ (IV) where R^1 can be a C_{2-6} n-alkylene group; $-[(-CH_2)_p-X]_q-(-CH_2)_r-$;"</p> <p><i>Page 9, lines 9-14.</i></p> |
| <p>R^2 is selected from the group consisting of C_{2-6} n-alkylene, and C_{6-8} cycloalkylene;</p> | <p>"R^2 denotes a C_{2-10} n-alkylene, C_{2-6} branched alkylene, C_{6-8} cycloalkylene or C_{6-14} alkylcycloalkylene group, heterocyclic, or $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;"</p> <p><i>Page 13, lines 18-19.</i></p> |
| <p>X is selected from the group consisting of O and S;</p> | <p>"X denotes one selected from the group consisting of O, S and $-NR^6-$;"</p> <p><i>Page 13, lines 20-21.</i></p> |

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| m is an integer between 1 and 10; | <p>“m is an independently selected rational number from 1 to 50;” <i>Page 13, line 23.</i></p> <p>“Preferred divinyl ethers include those compounds having at least one oxyalkylene group, more preferably from 1 to 4 oxyalkylene groups such as those compounds in which m is an integer from 1 to 4. More preferably, m is an integer from 2 to 4.” <i>Page 7, lines 25-28.</i></p> |
| p is an integer between 2 and 6; | <p>“p is an independently selected integer ranging from 2 to 6;” <i>Page 13, line 25.</i></p> |
| q is an integer between 1 and 5; | <p>“q is an independently selected integer ranging from 2 to 6;” <i>Page 13, line 25.</i></p> |
| r is an integer between 2 and 10; | <p>“r is an independently selected integer from 2 to 10” <i>Page 13, line 27.</i></p> |
| z is an integer from 3 to 6; | <p>“z is an integer from 3 to 6;” <i>Page 16, line 30.</i></p> |
| B is a z-valent group of a polyfunctionalizing agent; and | <p>“B denotes a z-valent residue of a polyfunctionalizing agent,” <i>Page 16, line 9.</i></p> |
| n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons. | <p>“n is an independently selected integer from 1 to 60.” <i>Page 13, line 24.</i></p> <p>“Preferably, the ungelled mercapto-terminated polymers have a number average molecular weight ranging from about 500 to about 20,000 grams per mole, more preferably from about 1,000 to about 10,000, and most preferably from about 2,000 to about 5,000, the molecular weight being determined by gel-permeation chromatography using a polystyrene standard.”</p> |

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| | <p><i>Page 7, lines 1-5.</i></p> <p>A Dalton is defined as a unit of molecular weight having one-twelfth the mass of a carbon atom in its ground state. <i>IUPAC Compendium of Chemical Terminology</i>. A carbon atom has an atomic mass of 12.011 grams per mole. Thus, for practical purposes, a Dalton is roughly equivalent to one gram per mole. One skilled in the art would know that a molecular weight of a polymer is in units of Daltons.</p> |
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| <i>Claim 32 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether mixture of claim 31 wherein z is 3. | <p>"Mercapto-terminated polymers useful in the formulations of the present invention have a mercapto functionality of at least 2. Polyfunctional analogs of the foregoing difunctional mercapto-terminated polymers can be prepared by reacting one or more compounds of formula IV and one or more compounds of formula V, in appropriate amounts, with one or more polyfunctionalizing agents."</p> <p><i>Page 15, lines 13-18.</i></p> |

| <i>Claim 33 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether mixture of claim 31 wherein the mixture has an average functionality between 3 and 4. | <p>"Polyfunctionalizing agents having more than three reactive moieties (i.e., $Z > 3$) afford "star" polymers and hyperbranched polymers. For example, two moles of TAC can be reacted with one mole of a dithiol to afford a material having an average functionality of 4. This material can then be reacted with a diene and a dithiol to yield a polymer, which can in turn be mixed with a trifunctionalizing agent to afford a polymer blend having an average functionality between 3 and 4."</p> <p><i>Page 17, lines 18-24.</i></p> |

| <i>Claim 34 of the Present Application</i> | <i>Representative Support in Applicants' Present Specification</i> |
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| The polythioether mixture of claim 33 wherein the average functionality is between 2.05 and 3.00. | <p>"Inventive polymers as described above have a wide range of average functionality. For example, trifunctionalizing agents afford average functionalities from about 2.05 to 3.0, preferably about 2.1 to 2.6. Wider ranges of average functionality can be achieved by using tetrafunctional or higher polyfunctionalizing agents. Functionality will also be affected by factors such as stoichiometry, as is known to those skilled in the art."</p> <p><i>Page 17, lines 25-30.</i></p> |

| <i>Claim 35 of the Present Application</i> | <i>Representative Support in Applicants' Specification</i> |
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| A curable composition comprising: | <p>"The sealant or potting formulations of the present invention further comprise one or more curing agents, . . ."</p> <p><i>Page 19, lines 17-18.</i></p> |
| 40 to 80 weight percent of a polythioether polymer according to claim 22, | <p>"The mercapto-terminated polymer or combination of mercapto-terminated polymers as detailed herein preferably is present in the polymerizable sealant composition in an amount from about 30 wt% to about 90 wt%, more preferably about 40 to about 80 wt%, very preferably about 45 to about 75 wt%, with the wt% being calculated based on the weight of total solids of the composition."</p> <p><i>Page 19, lines 11-16.</i></p> |
| 10 to 60 weight percent of a filler and | <p>"Fillers useful in the polymerizable compositions of the invention for aerospace application include those commonly used in the art, such as carbon black and calcium</p> |

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| | carbonate (CaCO ₃) . . . Preferably, the compositions include about 10 to about 70 wt% of the selected filler or combination of fillers, more preferably about 10 to 50 wt% based upon the total weight of the composition.” <i>Page 20, lines 7-13.</i> |
| 10 weight percent of a curing agent. | “The compounded polymer was mixed intimately with an epoxy resin curing agent of Examples 9-12 above in the weight ratio of 10:1 and cured at ambient temperature and humidity.” <i>Page 33, lines 2-5.</i> |

| <i>Claim 36 of the Present Application</i> | <i>Representative Support in Applicants' Specification</i> |
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| The curable composition of claim 35 further comprising one or more additives selected from the group consisting of: | “In addition to the foregoing ingredients, polymerizable sealant compositions of the invention can optionally include one or more of the following: pigments; thixotropes; retardants; and masking agents.” <i>Page 21, lines 21-23.</i> |
| pigments, | “Useful pigments include those conventional in the art, such as carbon black and metal oxides. Pigments preferably are present in an amount from about 0.1 to about 10 wt% based upon total weight of the formulation.” <i>Page 21, lines 24-26.</i> |
| cure accelerators, | “Polymerizable sealant composition cure time is reduced considerably by using an organic amine catalyst having a pK _b of 10 or above. Preferred organic amine catalysts are organic tertiary amines. Specific catalysts which are useful in the present invention are triethylene diamine, diazabicyclo (2,2,2) octane (DABCO) (preferred), diazabicycloundecene (DBU), 2,4,6-tri(dimethylamino methyl)phenol (DMP-30) and tetramethyl guanidine (TMG).” <i>Page 21, lines 6-11.</i> |

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| adhesion promoters, | <p>“The sealant and potting compositions of the present invention can comprise one or more adhesion promoters. Suitable adhesion promoters include phenolics such as METHYLON phenolic resin available from Occidental Chemicals, organosilanes such as epoxy, mercapto or amino functional silanes such as A-187 and A-1100 available from OSi Specialties. Preferably, an adhesion promoter is employed in an amount from 0.1 to 15 wt% based upon total weight of the formulation.”</p> <p><i>Page 20, lines 14-20.</i></p> |
| thixotropic agents | <p>“Thixotropes, for example fumed silica or carbon black, are preferably used in an amount from about 0.1 to about 5 wt% based upon total weight of the formulation.”</p> <p><i>Page 21, lines 27-29.</i></p> |
| and isopropyl alcohol. | <p>“The formulation can further comprise one or more organic solvents, such as isopropyl alcohol, in an amount ranging from 0 to 15 percent by weight on a basis of total weight of the formulation, preferably less than 15 weight percent and more preferably less than 10 weight percent.”</p> <p><i>Page 21, lines 1-4.</i></p> |

Applicants respectfully submit that the foregoing Amendments place claims 22-27, 31, 33, 35 and 36 are in condition for allowance. In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is supported by the specification. Applicants therefore request entry of this Amendment, the Examiner's consideration of the Continued Prosecution Application, and the timely allowance of the claims.

The Specification of the Parent Application from which Applicants Claim Priority Fully Supports Applicants' Claims 22-27 and 31-36

As exemplified by the support for independent claims 22, 31, and 35 below, Applicants' domestic priority document U.S. Application No. 08/802,130 filed February 19, 1997 also supports claims 22-27 and 31-36. A copy of U.S. Application No. 08/802,130 is attached as Appendix C.

| <i>Claim 22 of the Present Application</i> | <i>Representative Support in Applicants' Parent 08/802,130 Specification</i> |
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| <p>A polythioether comprising:</p> $\text{H-S-R}^1\text{--}[\text{--S--}(\text{CH}_2)_p\text{--O--}(\text{--R}^2\text{--O--})_m\text{--}(\text{CH}_2)_q\text{--S--R}^1\text{--}]_n\text{--S--H}$ <p>wherein</p> | <p>"In their most general aspect, the inventive polythioethers include a structure having the formula I</p> $\text{--R}^1\text{--}[\text{--S--}(\text{CH}_2)_2\text{--O--}(\text{--R}^2\text{--O--})_m\text{--}(\text{CH}_2)_2\text{--S--R}^1\text{--}]_n\text{--}"$ <p><i>Page 9, line 27.</i></p> <p>"Thus, the polythioether has the following structure:</p> $\text{HS--R}^1\text{--}[\text{--S--}(\text{CH}_2)_2\text{--O--}(\text{--R}^2\text{--O--})_m\text{--}(\text{CH}_2)_2\text{--S--R}^1\text{--}]_n\text{--SH}$ <p><i>Page 12, line 26-27.</i></p> |
| <p>R^1 is selected from the group consisting of C_{2-6} n-alkylene, and a $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$ group;</p> | <p>"R^1 denotes a divalent C_{2-6} n-alkylene, C_{2-6} branched alkyl, C_{6-8} cycloalkyl or C_{6-10} alkylcycloalkyl group, or $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$,"</p> <p><i>Page 10, lines 1-2.</i></p> |
| <p>R^2 is selected from the group consisting of C_{2-10} n-alkylene, and C_{6-8} cycloalkylene;</p> | <p>"R^2 denotes methylene, a divalent C_{2-6} n-alkyl, C_{2-6} branched alkyl, C_{6-8} cycloalkyl or C_{6-10} alkylcycloalkyl group, or $\text{--}[(\text{--CH}_2)_p\text{--X}]_q\text{--}(\text{--CH}_2)_r\text{--}$,"</p> <p><i>Page 10, lines 3-4.</i></p> |
| <p>X is selected from the group consisting of O and S;</p> | <p>"X denotes one selected from the group consisting of O, S and $\text{--NR}^6\text{--}$,"</p> <p><i>Page 10, line 5.</i></p> |
| <p>m is an integer between 1 and 10;</p> | <p>"m is a rational number from 0 to 10,"</p> <p><i>Page 10, lines 7.</i></p> |

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| p is an integer between 2 and 6; | "p is an integer ranging from 2 to 6," <i>Page 10, line 9.</i> |
| q is an integer between 1 and 5; | "q is an integer from 1 to 5," <i>page 10, line 10.</i> |
| r is an integer between 2 and 10; and | "r is an integer from 2 to 10." <i>Page 10, line 11.</i> |
| n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons. | <p>"n is an integer from 1 to 60," <i>Page 10, line 8.</i></p> <p>"Desirably, the inventive polythioethers have number average molecular weights ranging from about 500 to 20,000, preferably about 1,000 to 10,000, very preferably about 2,000 to 5,000." <i>Page 11, lines 16-18.</i></p> <p>A Dalton is defined as a unit of molecular weight having one-twelfth the mass of a carbon atom in its ground state. <i>IUPAC Compendium of Chemical Terminology</i>. A carbon atom has an atomic mass of 12.011 grams per mole. Thus, for practical purposes, a Dalton is roughly equivalent to one gram per mole. One skilled in the art would appreciate that a molecular weight of a polymer is in units of Daltons.</p> |

| <i>Claim 31 of the Present Application</i> | <i>Representative Support in Applicants' Parent 08/802,130 Specification</i> |
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| A mixture of polythioether polymers comprising: a polythioether polymer having the formula | "Polythioethers having higher functionality are also within the scope of the present invention." <i>Page 13, lines 28-29.</i> |
| $B-\{ -S-R^1-[-S-(CH_2)_p-O-(R^2-O)_m-(CH_2)_q-S-R^1]_n-S-H \}_z$ <p>wherein</p> | "Polyfunctional polythioethers according to the present invention thus preferably have the formula (III): $B-(A-[R^3]_y-R^4)_z$ " <i>Page 14, lines 15-17.</i> |

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| | <p>“A denotes a structure having the formula I, y is 0 or 1, R³ denotes a single bond when y=0 and –S–(CH₂)₂– [–O–R₂–]_m–O– when y=1, R⁴ denotes –SH or –S–(–CH₂–)₂–R⁵ when y=0 and –CH₂=CH₂ or –(–CH₂–)₂–S–R⁵ when y=1,” Page 14, lines 21-27.</p> |
| R ¹ is selected from the group consisting of C ₂₋₆ n-alkylene, and a –[(–CH ₂) _p –X] _q –(–CH ₂) _r – group; | <p>“R¹ denotes a divalent C₂₋₆ n-alkylene, C₂₋₆ branched alkyl, C₆₋₈ cycloalkyl or C₆₋₁₀ alkylcycloalkyl group, or –[(–CH₂)_p–X]_q–(–CH₂)_r–,” Page 10, lines 1-2.</p> |
| R ² is selected from the group consisting of C ₂₋₆ n-alkylene, and C ₆₋₈ cycloalkylene; | <p>“R² denotes methylene, a divalent C₂₋₆ n-alkyl, C₂₋₆ branched alkyl, C₆₋₈ cycloalkyl or C₆₋₁₀ alkylcycloalkyl group, or –[(–CH₂)_p–X]_q–(–CH₂)_r–,” Page 10, lines 3-4.</p> |
| X is selected from the group consisting of O and S; | <p>“X denotes one selected from the group consisting of O, S and –NR⁶–,” Page 10, line 5.</p> |
| m is an integer between 1 and 10; | <p>“m is a rational number from 0 to 10.” Page 10, lines 7.</p> |
| p is an integer between 2 and 6; | <p>“p is an integer ranging from 2 to 6;” Page 10, line 9.</p> |
| q is an integer between 1 and 5; | <p>“q is an integer from 1 to 5,” page 10, line 10.</p> |
| r is an integer between 2 and 10; | <p>“r is an integer from 2 to 10.” Page 10, line 11.</p> |
| z is an integer from 3 to 6; | <p>“z is an integer from 3 to 6.” Page 15, line 1.</p> |
| B is a z-valent group of a polyfunctionalizing agent; and | <p>“B denotes a z-valent residue of a polyfunctionalizing agent,” Page 15, line 2.</p> |
| n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1000 and 10,000 | <p>“n is an integer from 1 to 60.” Page 10, line 8.</p> |

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| Daltons. | <p>“Desirably, the inventive polythioethers have number average molecular weights ranging from about 500 to 20,000, preferably about 1,000 to 10,000, very preferably about 2,000 to 5,000.”</p> <p><i>Page 11, lines 16-18.</i></p> <p>A Dalton is defined as a unit of molecular weight having one-twelfth the mass of a carbon atom in its ground state. <i>IUPAC Compendium of Chemical Terminology</i>. A carbon atom has an atomic mass of 12.011 grams per mole. Thus, for practical purposes, a Dalton is roughly equivalent to one gram per mole. One skilled in the art would appreciate that a molecular weight of a polymer is in units of Daltons.</p> |
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| <i>Claim 35 of the Present Application</i> | <i>Representative Support in Applicants' Parent 08/802,130 Specification</i> |
|---|--|
| A curable composition comprising: | <p>“A first preferred polymerizable composition thus includes at least one polythioether as described herein; a curing agent or combination of curing agents; and a filler.”</p> <p><i>Page 22, lines 20-22..</i></p> |
| 40 to 80 weight percent of a polythioether polymer according to claim 22, | <p>“The polythioether or combination of polythioethers preferably is present in the polymerizable composition in an amount from about 30 wt% to about 90 wt%, more preferably from about 40 to 80 wt% . . .”</p> <p><i>Page 22, lines 24-25.</i></p> |
| 5 to 60 weight percent of a lightweight filler and | <p>“Fillers useful in the polymerizable compositions of the invention include those commonly used in the art, such as carbon black and calcium carbonate (CaCO₃). . . Preferably, the compositions include about 5 to about 50 wt% of the selected filler or combination of fillers, very preferably about 10 to 50 wt%.”</p> |

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| | <i>Page 23, lines 18-21.</i> |
| 10 weight percent of a curing agent. | <p>“The compounded polymer was mixed intimately with the epoxy resin curing agent . . . , in the weight ratio of 10:1 . . . ” <i>Page 37, lines 23-24.</i></p> <p>In Example 14, the sealant composition comprises 54 wt% polythioether, 36 wt% fillers and additives, and 10 wt% curing agent. <i>Page 37, lines 11-26.</i></p> |

An Interference Between the Present Application and the '168 Patent is Appropriate

An interference is appropriate between an application and an unexpired patent of different parties when the application and the patent contain claims to the same patentable invention. See § 2306 of the M.P.E.P., which provides, in pertinent part:

An interference may be declared between an application and a patent if the application and the patent are claiming the same patentable invention as defined in 37 C.F.R. § 1.601(n) . . .

Similarly, 37 C.F.R. § 1.601(j) notes that “[a]n interference-in-fact exists when at least one claim of a party . . . and at least one claim of an opponent . . . define the same patentable invention.”

Thus, claim 1 of the '168 patent and Applicants' claim 22 constitute interfering subject matter, and should be designated as corresponding to a common interference count, since the two claims are directed to “the same patentable invention,” as that expression is “defined in 37 C.F.R. § 1.601(n).”

37 C.F.R. § 1.601(n) explains that:

Invention “A” is the same patentable invention as invention “B” when invention “A” is the same as (35 U.S.C. § 102) or is obvious (35 U.S.C. § 103) in view of invention “B” assuming invention “B” is prior art with respect to invention “A.”

In the present case, Applicants' invention, as defined by claim 22 (invention "B"), fully anticipates the '168 invention, as defined by claim 1 (invention "A"). Moreover, as will be explained below, claim 1 of the '168 patent is substantially the same as claim 22 of the present application. Thus, the inventions of the '168 patent and the present application are directed to the same invention.

The only differences between Applicants' claims 22-27 and 31-34 and claims 1-6, 8 and 10-13 of the '168 patent, respectively, reside in minor changes made to Applicants' claims to provide more literal support from Applicants' specification. For ease of comparison of the claims, the claims of the '168 patent and the present application are set forth side-by-side below.

| <i>Claim 1 of the '168 Patent</i> | <i>Claim 22 of the Present Application</i> |
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| <p>A polythioether comprising:</p> $R^4-S-[-R^1-S-CH_2CH_2-(R^2)_m-S-]_n-R^1-S-R^4$ <p>wherein</p> <p>R^4 is H, C_1-C_6 alkyl alcohol and C_{0-6} alkyl substituted with $[-CH_2-CH_2(R^2)_m]-X$ where X is halogen</p> | <p>A polythioether comprising:</p> $H-S-R^1-[-S-(CH_2)_p-O-(R^2-O)_m-(CH_2)_q-S-R^1-]_n-S-H$ <p>wherein</p> |
| <p>R^1 is a C_{1-10} alkyl, $-(R^3Q)_pR^3-$ or C_6-C_{20} aryl where Q is O or S, each R^3 is independently C_{1-6} alkyl, and</p> | <p>R^1 is selected from the group consisting of C_{2-10} n-alkylene, and a $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;</p> <p>X is selected from the group consisting of O and S</p> <p>q is an integer between 1 and 5;</p> <p>r is an integer between 2 and 10;</p> |

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| <p>For example, when $p=2$, $Q=O$, and $R^3 = C_2$ alkyl(ene), $-(R^3Q)_pR^3-$ is:</p> <p>$-CH_2CH_2-O-CH_2CH_2-O-CH_2CH_2-$</p> | <p>$-[(CH_2)_p-X]_q-(CH_2)_r-$ is the same as $-(R^3Q)_qR^3_r-$ where $R^3 = -(CH_2)_{q,r}-$. Since $r = 2-10$, R^3_r is a C_{2-10} alkylene, and $p = 2-6$, R^3_p is a C_{2-6} alkylene.</p> <p>For example, when $p=q=r=2$, and $X=O$, $-[(CH_2)_p-X]_q-(CH_2)_r-$ is:</p> <p>$-CH_2CH_2-O-CH_2CH_2-O-CH_2CH_2-$</p> |
| p is an integer between 0 and 6; | p is an integer between 2 and 6; |
| R^2 is C_{1-6} alkyloxy or C_{5-12} cycloalkyloxy, | R^2 is selected from the group consisting of C_{2-6} n-alkylene, and C_{6-8} cycloalkylene; |
| m is an integer between 1 and 4, and | m is selected from an integer between 1 and 10; and |
| n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons. | n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1000 and 10,000 Daltons. |

| <i>Claim 2 of the '168 Patent</i> | <i>Claim 23 of the Present Application</i> |
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| The polythioether of claim 1 wherein R^1 is C_2-C_8 alkyl. | The polythioether of claim 22 wherein R^1 is C_2-C_6 n-alkylene. |

| <i>Claim 3 of the '168 Patent</i> | <i>Claim 24 of the Present Application</i> |
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| <p>The polythioether of claim 1 where R^1 is $-(R^3Q)_pR^3-$ where R^3 in each occurrence is C_1, 2 and p being 1 or 2.</p> <p>For example, when $p=2$, $Q=O$, and $R^3 = C_2$ alkyl(ene), $-(R^3Q)_pR^3-$ is:</p> <p>$-CH_2CH_2-O-CH_2CH_2-O-CH_2CH_2-$</p> | <p>The polythioether of claim 22 where R^1 is $-[(CH_2)_p-O]_q-(CH_2)_r-$ wherein r, p, and q are 2.</p> <p>$-[(CH_2)_p-O]_q-(CH_2)_r-$ can be written as $-(R^3_pQ)_qR^3_r-$ where $R^3 = -(CH_2)-$.</p> <p>For example, when $p=q=r=2$, and $X=O$, $-[(CH_2)_p-X]_q-(CH_2)_r-$ is:</p> <p>$-CH_2CH_2-O-CH_2CH_2-O-CH_2CH_2-$</p> |

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| <i>Claim 4 of the '168 Patent</i> | <i>Claim 25 of the Present Application</i> |
| The polythioether of claim 1 wherein R ² is C ₁ -C ₂ alkyloxy. | The polythioether of claim 22 wherein R ² is C ₂ alkyleneoxy. |

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| <i>Claim 5 of the '168 Patent</i> | <i>Claim 26 of the Present Application</i> |
| The polythioether of claim 1 wherein the molecular weight of said polythioether is between 2000 and 6000 Daltons. | The polythioether of claim 22 wherein the molecular weight of said polythioether ranges from about 2000 to about 5000 Daltons. |

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| <i>Claim 6 of the '168 Patent</i> | <i>Claim 22 of the Present Application</i> |
| The polythioether of claim 1 wherein R ⁴ is hydrogen. | In claim 22, R ⁴ is hydrogen. |

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| <i>Claim 8 of the '168 Patent</i> | <i>Claim 27 of the Present Application</i> |
| The polythioether of claim 22 having an atomic percentage ratio of C:S:O of 35-49 : 20-60 : 0-20. | The polythioether of claim 22 having an atomic percentage ratio of C:S:O of 35-49 : 20-60 : 0-20. |

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| <i>Claim 10 of the '168 Patent</i> | <i>Claim 31 of the Present Application</i> |
| A mixture of polythioether polymers comprising: a polythioether polymer having the formula | A mixture of polythioether polymers comprising: a polythioether polymer having the formula |
| $B-(S-[-R^1-S-CH_2CH_2-(R^2)_m-S-]_n-R^1-S-R^4)_z$ | $B-\{S-R^1-[-S-(CH_2)_p-O-(R^2-O)_m-(CH_2)_q-S-R^1]_n-S-H\}_z$ |
| | wherein |
| where B is a z-valent group of a polyfunctionalizing agent, | B is a z-valent group of a polyfunctionalizing agent; and |
| z is an integer from 3 to 6, | z is an integer from 3 to 6, |

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| <p>R^1 is a C_{1-10} alkyl, $-(R^3Q)_pR^3-$ or C_6-C_{20} aryl where Q is O or S, each R^3 is independently C_{1-6} alkyl, and</p> <p>For example, when $p=2$, $Q=O$, and $R^3 = C_2$ alkyl(ene), $-(R^3Q)_pR^3-$ is:</p> <p>$-CH_2CH_2-O-CH_2CH_2-O-CH_2CH_2-$</p> | <p>$R^1$ is selected from the group consisting of a C_{2-6} n-alkylene, and a $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;</p> <p>X is selected from the group consisting of O and S;</p> <p>q is an integer between 1 and 5;</p> <p>r is an integer between 2 and 10;</p> <p>$-[(-CH_2)_p-X]_q-(-CH_2)_r-$ can be written as $-(R^3_qQ)_q-R^3_r-$ where $R^3 = -(CH_2)_{q,r}-$. Since $r = 2-10$, R^3_r is a C_{2-10} alkylene, and $p = 2-6$, R^3_p is a C_{2-6} alkylene.</p> <p>For example, when $p=q=r=2$, and $X=O$, $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ is:</p> <p>$-CH_2CH_2-O-CH_2CH_2-O-CH_2CH_2-$</p> |
| p is an integer between 0 and 6; | p is an integer between 2 and 6; |
| R^2 is C_{1-6} alkyloxy or C_{5-12} cycloalkyloxy, | R^2 is selected from the group consisting of a C_{2-6} n-alkylene, and C_{6-8} cycloalkylene; |
| R^4 is H, C_{1-6} alkyl, C_{1-6} alkyl alcohol and C_{0-6} alkyl substituted with $-[-CH_2CH_2(R^2)_m]-X$, where X is a halogen | In claim 31, R^4 would be H. |
| m is an integer between 1 and 4, and | m is an integer between 1 and 10; |
| n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons. | n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1000 and 10,000 Daltons. |
| <i>Claim 11 of the '168 Patent</i> | <i>Claim 32 of the Present Application</i> |
| The polythioether mixture of claim 10 wherein z is 3. | The polythioether mixture of claim 31 wherein z is 3. |

| <i>Claim 12 of the '168 Patent</i> | <i>Claim 33 of the Present Application</i> |
|---|---|
| The polythioether mixture of claim 10 wherein the mixture has an average functionality between 2 and 4. | The polythioether mixture of claim 31 wherein the mixture has an average functionality between 3 and 4. |

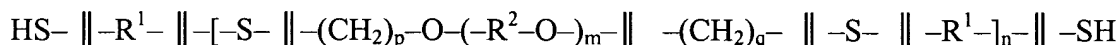
| <i>Claim 13 of the '168 Patent</i> | <i>Claim 34 of the Present Application</i> |
|---|---|
| The polythioether mixture of claim 12 wherein the average functionality is between 2.05 and 3.00. | The polythioether mixture of claim 33 wherein the average functionality is between 2.05 and 3.00. |

Claims 1 and 6 of the '168 patent and Applicants' claim 22 define the same polythioether structure. A direct comparison of the structure of the two polythioethers can be made by aligning the respective structures as follows:

Claim 1 of the '168 Patent



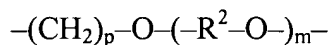
Claim 22 of the Present Application



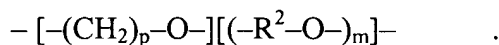
As shown in the claim comparison, the R^4-S- , $-R^1-$, $-[S-$, $-CH_2CH_2-$, $-S-$, $-R^1-]_n-$ and $-S-R^4$ constituents of the polythioethers defined by the '168 patent and Applicants' present application are comparable.

In claim 1 of the '168 patent, R^2 is defined as a C_{1-6} alkyl(ene)oxy or C_{5-12} cycloalkyl(ene)oxy group and m is an integer between 1 and 4. Therefore, $-(R^2)_m-$ includes a C_{2-6} alkyl(ene)oxy with $m = 2-4$ repeat units, i.e., $[(CH_2)_{2-6} - O -]_{2-4}$.

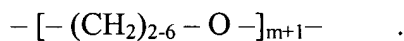
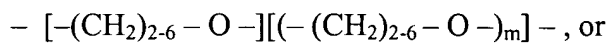
In claim 22 of Applicants' present application, R^2 is a C_{2-10} n-alkylene or C_{6-8} cycloalkylene, m is an integer between 1 and 50, and p is an integer between 2 and 6. The alkoxy groups,



can be written as,



When $p = 2-6$, $-[-(CH_2)_p-O-]$ is a C_{2-6} alkyleneoxy group. Since R^2 is a C_{2-10} n-alkylene, it includes C_{2-6} n-alkylene, i.e., $[(CH_2)_{2-6}-O]_m$. Therefore, when $-[-(CH_2)_p-O-]$ is a C_{2-6} alkyleneoxy group and R^2 is a C_{2-6} n-alkylene group, $-[-(CH_2)_p-O-][(-R^2-O)_m]-$ is



Since m is a rational number from 1 to 50, $-(CH_2)_p-O-(R^2-O)_m-$ is a C_{2-6} alkyleneoxy with $m+1 = 2-51$ repeat units, which overlaps with $m=1-4$ repeat units of the '168 patent. In a preferred embodiment of the present invention, m is an integer from 1 to 4. Thus, in a preferred embodiment, $-(CH_2)_p-O-(R^2-O)_m-$ is a C_{2-6} alkyleneoxy with 2 to 5 repeat units, which is substantially identical with the 1 to 4 repeat units of the '168 patent.

Therefore, the $-(R^2)_m-$ group of the '168 patent, and the $-(CH_2)_p-O-(R^2-O)_m-$ group of the present patent define identical subject matter.

Furthermore, the polythioethers claimed in the '168 patent and in the present application encompass identical structures.

The side-by-side comparison set forth above makes it readily apparent that the claims of the '168 patent and the present application are directed to the same invention, i.e., the claims

define interfering subject matter, and should be designated as corresponding to the same interference count. 37 C.F.R. § 1.606.

Although the language of claims 22-27 and 31-36 differs somewhat from that of the '168 patented claims, one of ordinary skill readily understands that these are semantic differences. For example, in the '168 patent alkanediyl groups are mistakenly referred to as alkyl groups whereas Applicants refer to the same groups as alkylene groups. In claim 1 of the '168 patent, $-R^1-$ is mistakenly referred to as a C_{1-10} alkyl group. Applicants refer to $-R^1-$ as a C_{2-6} n-alkylene group. According to the *IUPAC Compendium of Chemical Terminology* (2nd Edition 1997), an alkyl group is defined as a univalent group derived from alkanes by removal of a hydrogen atom from a carbon atom, e.g. $-C_nH_{2n+1}$. An alkylene group is defined as an alkanediyl group commonly but not necessarily having free valencies on adjacent carbon atoms, e.g. $-CH(CH_3)CH_2-$. *IUPAC Compendium of Chemical Terminology* (2nd Edition 1997). However, regardless of the chemical nomenclature used, a person skilled in the chemical arts would understand the $-R^1-$ group to be derived from an alkane group having a free valence on end carbon atoms for bonding to other constituents.

An Interference Between the Present Application and the '135 Application is Appropriate

An interference is appropriate between two or more pending applications of different parties when the applications contain claims to the same patentable invention. See § 2303 of the M.P.E.P., which provide, impertinent part:

Where two or more applications are found to be claiming the same patentable invention, they may be put in interference, dependent on the status of the respective applications and the difference between their filing dates.

Similarly, 37 C.F.R. § 1.601(i) provides that “[a]n interference may be declared between two or more pending applications naming different inventors when, in the opinion of an examiner, the applications contain claims for the same patentable invention.” Moreover, as will be explained below, claim 9 of the ’135 application is substantially the same as claim 35 of the present application. Thus, the inventions of the ’135 application and the present application are directed to the same invention. Thus, claim 9 of the ’135 application and Applicants’ claim 35 constitute interfering subject matter, and should be designated as corresponding to a common interference count, since the two claims are directed to the “same patentable invention,” as that expression is “defined in 37 C.F.R. § 1.601(n).”

The only differences between Applicants’ claims 35 and 36 and claims 9 and 10 of the ’135 application, respectively, reside in changes made to Applicants claims’ to provide more literal support from Applicants’ specification. For ease of comparison, the claims of the ’135 application and the present application are set forth side-by-side below.

| <i>Claim 9 of the '135 Application</i> | <i>Claim 35 of the Present Application</i> |
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| A curable composition comprising: | A curable composition comprising: |
| 42 to 80 weight percent of a polythioether polymer according to claim 1, <u>Comment</u> The polythioether polymer of claim 1 has the following structure: $\text{R}^4\text{-S-}[\text{-R}^1\text{-S-CH}_2\text{CH}_2\text{-(R}^2\text{)}_m\text{-S-}]_n\text{-R}^1\text{-S-}\text{R}^4$ and see constituents as defined above. | 40 to 80 weight percent of a polythioether polymer according to claim 22, <u>Comment</u> The polythioether polymer of claim 22 has the following structure: $\text{H-S-R}^1\text{-}[\text{-S-(CH}_2\text{)}_p\text{-O-(-R}^2\text{-O-)}_m\text{-(CH}_2\text{)}_q\text{-S-R}^1\text{-}]_n\text{-S-H}$ and see constituents as defined above. |
| 0.3 to 15 weight percent of a lightweight filler and | 10 to 60 weight percent of a filler and |

| | |
|---|--------------------------------------|
| 0.1 to 20 weight percent of a curing agent. | 10 weight percent of a curing agent. |
|---|--------------------------------------|

| <i>Claim 10 of the '135 Application</i> | <i>Claim 36 of the Present Application</i> |
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| The curable composition of claim 9 further comprising one or more additives selected from the group consisting of: | The curable composition of claim 35 further comprising one or more additives selected from the group consisting of: |
| pigments, | pigments, |
| cure accelerators, surfactants, | cure accelerators, |
| adhesion promoters, | adhesion promoters, |
| thixotropic agents | thixotropic agents |
| and solvents. | and isopropyl alcohol. |

The side-by-side comparison set forth above makes it readily apparent that the claims of the '135 application and the present application are directed to the same invention, i.e., the claims define interfering subject matter, and should be designated as corresponding to the same interference count. 27 C.F.R. § 1.606.

Applicants' Pending Claims 22-27, and 31-34 are Directed to Patentable Subject Matter

Applicants' claims 22-27, 31-34 are identical, or very similar to the claims of the '168 patent.

Specifically, Applicants' independent claim 22 is substantially identical to independent claim 1 of the '168 patent. Because patent claim 1 of the '168 patent defines a patentable invention, Applicants' corresponding pending claim 22 must be patentable for the same reasons.

It follows that if independent claim 22 defines patentable subject matter, then claims 23-27, that are dependent upon claim 22, also must define patentable subject matter. Applicants' independent claim 31 is substantially identical to independent claim 10 of the '168 patent. Because patent claim 10 of the '168 patent defines a patentable invention, Applicants' corresponding pending claim 31 must be patentable for the same reasons. It follows that if independent claim 31 defines patentable subject matter, then claims 32-34, which are dependent upon claim 31, also must define patentable subject matter.

Applicants' Pending Claims 35 and 36 are Directed to Patentable Subject Matter

Applicants' claims 35 and 36 are identical or very similar to the claims of the '135 application.

Specifically, Applicants' independent claim 35 is directed to a curable composition comprising a polythioether polymer and is similar to independent claim 9 of the '135 application. Independent claim 9 of the '135 application is directed to curable compositions comprising the polythioether polymer of claim 1 of the '168 patent. Because the polythioether polymer of claim 1 of the '168 patent is a patentable invention, it follows that the curable compositions of claim 9 of the '135 application and claim 35 of Applicant's application define patentable subject matter. It follows that if Applicants' independent claim 35 defines patentable subject matter then Applicants' claim 36, which is dependent on claim 35, also must define patentable subject matter.

Proposed Counts

In proposing a count for this interference, Applicants have followed the widely-used convention of linking two broadest corresponding claims from the present application and the '168 patent by "OR."

For the Examiner's convenience, Applicants have attached courtesy copies of the "Interference-Initial Memorandum" form PTO-850 as Appendix D. Copies of the proposed count are also provided as an attachment to that Memorandum as required by Rule 604.

Applicants' proposed count satisfies the requirement of C.F.R. Section 1.606 that at the time of declaring an interference, a count shall not be narrower in scope than any application claim that is patentable over the prior art and designated to correspond to the count or any patent claim that corresponds to the count.

In structuring the interference, all claims in the involved cases which are directed to patentably indistinct subject matter should be designated as corresponding to the count. Thus, claims 1-6, 8, and 10-13 of the '168 patent and Applicants' claims 22-27 and 31-34 should be designated as corresponding to the count, and claims 9 and 10 of the '135 application and Applicants' claims 35 and 36 should be designated as corresponding to the count.

Count/Claim Correspondence

Claims 1-6, 8, and 10-13 of the '168 patent and claims 9 and 10 of the '135 application should be designated as corresponding the count, since all of these claims are directed to polythioethers, mixtures of polythioether polymers and curable compositions of polythioether polymers. There is no indication that claims 1-6, 8, and 10-13 of the '168 patent and claims 9 and 10 of the '135 application define a separately patentable invention, and it is a fundamental

tenet of interference law that "All claims in the application and patent which define the same patentable invention as a count shall be designated to correspond to the count." 37 C.F.R. § 1.606.

Relevant Dates

The present application is a continuation of U.S. Application No. 10/302,177 filed November 21, 2002, which is a continuation of 09/756,573 filed January 8, 2001, now U.S. Patent No. 6,509,418, which is a continuation-in-part of U.S. Patent Application No. 08/928,972 filed September 12, 1997, now U.S. Patent No. 6,172,179, which is a continuation-in-part of U.S. Patent Application No. 08/802,130 filed on February 19, 1997, now U.S. Patent No. 5,912,319. U.S. Application No. 09/756,573 claims benefit of U.S. Application No. 60/182,396 filed February 14, 2000 and claims benefit of U.S. Application No. 60/215,548 filed June 30, 2000.

The present application is also a continuation-in-part of U.S. Application No. 09/318,500 filed May 25, 1999, now U.S. Patent No. 6,232,401, which is a divisional of U.S. Application No. 08/802,130 filed February 19, 1997, now U.S. Patent No. 5,912,319.

The pending claims are fully supported by the disclosure in the parent 08/802,130 application filed February 19, 1997.

The '168 patent claims the benefit of U.S. Provisional Application No. 60/188,106 filed March 9, 2000. U.S. Application No. 10/368,135 filed February 20, 2003, is a division of Application No. 09/802,427 filed March 9, 2001, now U.S. Patent No. 6,525,168, and claims the benefit of U.S. Provisional Application No. 60/188,106 filed March 9, 2000.

Based on these relative dates, Applicants' effective filing date of February 19, 1997 is before the March 9, 2000 priority date of the '168 patent and the filing date of the '135

application. Consequently, Applicants should be designated as the senior party for the proposed count.

The Requirements of 35 U.S.C. § 1.135(b) are Satisfied

The '168 patent issued on February 25, 2003. The present amendment presents claims 22-27, and 31-34 which define substantially the same subject matter as the claims of the '168 patent. 35 U.S.C. § 1.135(b)(1) requires that "A claim which is the same as, or for the same or substantially the same subject matter as, a claim of an issued patent may not be made in any application unless such a claim is made prior to one year from the date on which the patent was granted." Because Applicants have presented these claims within one year of the February 25, 2003 issuance of the '168 patent, Applicants have complied with the requirements of 35 U.S.C. § 1.135(b)(1).

The '135 application was published on July 10, 2003 as U.S. Patent Application Pub. No. 2003/0130480 A1. The present amendment presents claims 35 and 36 which define substantially the same subject matter as claims 9 and 10 of the '135 application. 35 U.S.C. § 1.135(b)(2) requires that "A claim which is the same as, or for the same or substantially the same subject matter as, a claim of an application published under section 122(b) of this title may be made in an application filed after the application is published only if the claim is made before one year after the date on which the application is published." Because Applicants have presented these claims within one year of the July 10, 2003 publication of the '135 application, Applicants have complied with the requirements of 35 U.S.C. § 1.135(b)(2).

Notice of Pending Reissue

The Examiner's attention is directed to the reissue application of U.S. Patent No. 5,912,319 and Request for Interference under 37 C.F.R. § 1.607 filed contemporaneously with this Amendment and Request for Interference. Applicants' intend to proceed with whichever Request for Interference the Office elects, or whichever Request for Interference is elected earliest in time.

Conclusion

Applicants have demonstrated that claims 22-27 and 31-36 of the present application define allowable subject matter that is patentably indistinct from claims 1-6, 8, and 10-13 of the '168 patent and claims 9 and 10 of the '135 application, and thus satisfies the requirements of Rule 607. Consequently, an interference based on the proposed count is appropriate.

Accordingly, applicants request the Examiner issue the following relief:

- (1) Prepare and transmit Form PTO-850 (completed sample enclosed as Appendix D) recommending the Administrative Patent Judge institute an interference between the present application and the '168 patent and the '135 application.
- (2) Propose the count as set forth in this Request and designate Applicants' claims 22-27 and 31-36 and claims 1-6, 8, and 10-13 of the '168 patent, and Applicants' claims 35 and 36 and claims 9 and 10 of the '135 application as corresponding to the count.
- (3) On Form PTO-850, indicate Applicants' entitlement to benefit of at least the filing date of the parent 08/802,130 application for the proposed count and designate Applicants as senior for this count.

Further, upon a determination by the Examiner that an interference should be declared, Applicants respectfully request that the Examiner issue a Notice suspending prosecution of the instant application pending declaration of an interference.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: February 25, 2004

By: 

William R. Lambert
Reg. No. 44,857

CERTIFICATE OF EXPRESS MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service's "Express Mail Post Office to Addressee" service under 37 CFR § 1.10, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 25, 2004. Express Mail Label No.: EV 351293876 US.

Signed: 

Linda Phillips